UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/509,725	03/29/2000	Seok-Keun Koh	P/2292-29	9859

2352 7590 07/30/2002

OSTROLENK FABER GERB & SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 100368403

EXAMINER	
MAYEKAR, KISHOR	

ART UNIT	PAPER NUMBER
1741	

DATE MAILED: 07/30/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/509,725	Applicant(s) S. Koh et al.
	Examiner Kishor Mayekar	Art Unit 1741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *three* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 16, 2002*.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-32* is/are pending in the application.

4a) Of the above, claim(s) *2-19, 22, and 30-32* is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1, 20, 21, and 23-29* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). *4*
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restriction

1. Applicant's election of invention of Group IA, claims 1, 20, 21 and 23-29 in Paper No. 9 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

2. The abstract of the disclosure is objected to because it exceeds 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 23 recites that the DC discharge is performed periodically in the form of on/off pulsing during a process time in order *to improve the hydrophilicity of the polymer*. However, the issue of improving the hydrophilicity of the formed polymer has not been disclosed in the paragraph crossing pages 24 and 25 of the specification.

4. Claims 1, 24, 26 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "whereby" is indefinite because the action following after "whereby" does not necessarily occurs. The phrase "*the surface* of the anode" is lacking antecedent basis.

Regarding claim 24, the Markush group is not in correct format. It should be

in the format --selected from *the* group consisting of ...--.

Regarding claim 26, the same is applied to claim 1 to the term "whereby".

Regarding claim 27, the same is applied to claim 1 to the term "whereby".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1, 20, 21 and 25-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over HAQUE et al. (4,598,022) in view of Applicant's admission. The reference's invention is directed to one-step plasma treatment of copper foils to increase their laminate adhesion. The reference discloses in the abstract, Fig. 1, col. 5, lines 37-40, col. 10, lines 41-45 and in Example II that the treatment comprises

all the steps as claimed. The reference further discloses in col.2, lines 46-47 and in col. 10, lines 16-25 the wide applicability of the treatment. The difference between the reference and the above claim is that the reference does not detailing on the contents of the generated plasma. However, Applicant admits in the second paragraph of page 3 of the specification that the generated plasma from a one-step plasma treatment comprises ionized gas, radicals and the like. The subject matter as a whole would have ben obvious to one having ordinary skill in the art at the time the invention was made to have modified the reference's teachings as admitted by Applicant because such contents are known to be formed within the generated plasma.

As to the subject matter of claim 25, the reference discloses in col. 7, lines 37-47, the exposure time of the substrate to plasma.

As to the subject matters claims 26-28, the reference discloses the controlling of nitrogen gas's flow rate and other chemicals used as the organic species (col. 7, lines 15-22).

7. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over HAQUE

'022 as applied to claims 1, 20, 21, 25, 26 and 28 above, and further in view of HAQUE et al. (4,588,641). The further difference between the reference applied above and the instant claims is the recited further step. HAQUE '641 shows the above limitation in a plasma treatment (see abstract). The subject matter as a whole would have been obvious to one having ordinary skilled in the art at the time the invention was made to have modified the reference's teachings as suggested by HAQUE '641 because this would further enhance the lamination adhesion of the treated copper foils.

8. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over HAQUE '022 as applied to claims 1, 20, 21, 25, 26 and 28 above, and further in view of KLEEBERG et al. (5,089,290). The difference between the reference as applied above and the instant claim is the step of annealing the formed polymer. KLEEBERG shows the above limitation in a method of plasma polymerization a substrate (see abstract). The subject matter as a whole would have been obvious to one having ordinary skill in

the art at the time the invention was made to have modified the references teachings as suggested by KLEEBERG because this would result in stabilizing the formed polymer.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double

patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claims 1, 23-25, 28 and 29 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 35-37, 40 and 42 of copending Application No. 09/529,052. Although the conflicting claims are not identical, they are not patentably distinct from each other because the scope of the claims of the copending application encompasses that of the above claims.

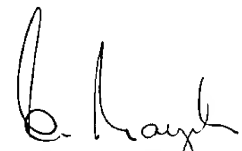
This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kishor Mayekar whose telephone number is (703) 308-

0477. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen, can be reached on (703) 308-3322. The fax phone number for this Group is (703) 872-9310 (non-after finals) or 872-9311 (after final).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



Kishor Mayekar
Primary Examiner
Group 1700

KM
July 25, 2002